BOOZER BEAM

STRUCTURAL GLULAM COLUMN

1.7E • 2000F_C

- Stronger and more dimensionally stable than solid sawn posts.
- Lower cost than PSL.
- Exceptional value in cost vs. performance.
- Made from the finest dense southern yellow pine lumber.
- Available in architectural appearance grade for visually exposed applications. Absolutely beautiful!
- LiquiSeal™ wax coating available.
- Available in any length up to 52'.
- Quality inspected by APA-The Engineered Wood Assocation.





BOOZERBEAM 1.7E Structural Glulam Columns are available in the following widths:

3 1/8" 3 1/2" 5 1/8" 7" 6 3/4"

Please contact your nearest **B00ZERBEAM** dealer for sizes available in your market.

BOOZE



Allowable Axial Loads (Pounds) for Combination No. 48 Glulam Column

Side loads are not permitted. End loads are limited to a maximum eccentricity of either 1/6 column width or depth, whichever is worse.

Effective	Lamination Net Width = 3-1/2 in.														
Column	Net Depth = 3-1/2 in. (3 lams)			Net Depth = 4-1/4 in. (4 lams)			Net Depth = 5-1/2 in. (4 lams)			Net Depth = 7 in. (6 lams)			Net Depth = 8-1/4 in. (6 lams)		
Length	Load Duration Factor			Load Duration Factor			Load Duration Factor			Load Duration Factor			Load Duration Factor		
(ft)	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25
4	9,530	10,720	11,470	14,480	16,190	17,270	19,720	22,190	23,760	25,830	29,170	31,290	30,820	34,860	37,100
5	8,740	9,690	10,270	13,010	14,270	15,040	18,090	19,760	20,650	23,230	25,150	26,280	27,380	29,640	30,970
6	7,830	8,520	8,930	11,340	12,210	12,730	15,350	16,320	16,870	19,540	20,770	21,480	23,030	24,480	25,310
7	6,860	7,340	7,620	9,730	10,340	10,680	12,800	13,450	13,820	16,300	17,120	17,590	19,210	20,170	20,730
8	5,940	6,280	6,470	8,290	8,640	8,850	10,730	11,190	11,450	13,660	14,240	14,570	16,100	16,780	17,170
9	5,130	5,380	5,520	7,010	7,270	7,420	9,080	9,410	9,600	11,550	11,980	12,220	13,610	14,120	14,410
10	4,450	4,640	4,740	5,990	6,190	6,300	7,760	8,010	8,150	9,870	10,190	10,380	11,630	12,010	12,230
11	3,890	4,030	4,110	5,170	5,320	5,410	6,690	6,890	7,000	8,520	8,770	8,910	10,040	10,330	10,500
12	3,410	3,530	3,590	4,500	4,620	4,690	5,830	5,980	6,070	7,420	7,610	7,720	8,740	8,970	9,100
13	3,020	3,110	3,160	3,950	4,050	4,100	5,110	5,240	5,310	6,510	6,670	6,760	7,670	7,860	7,960
14	2,690	2,760	2,800	3,500	3,570	3,620	4,520	4,620	4,680	5,760	5,880	5,960	6,780	6,940	7,020

Notes:

- 1. The tabulated allowable loads apply only to one-piece glulam members made with all N2D12 laminations (Combination 48) without special tension laminations.
- 2. Applicable service conditions = dry
- The tabulated allowable loads are based on simply axially loaded columns subjected to a maximum eccentricity of either 1/6 column width or 1/6 column depth, whichever is worse.
 For side loads, other eccentric end loads, or other combined axial and flexural loads, see 2015 NDS
- 4. The column is assumed to be unbraced, except at the column ends, and the effective column length is equal to the actual column length.
- 5. Design properties for normal load duration and dry-use service conditions:

Compression parallel to grain (F_c) = 2,200 psi for 4 or more lams, or 1,350 psi for 2 or 3 lams.

Modulus of elasticity (E) = 1.7 x 10⁶ psi

Flexural stress when loaded parallel to wide faces of lamination $(F_{by}) = 2,000$ psi for 4 or more lams, or 1,800 psi for 3 lams.

Flexural stress when loaded perpendicular to wide faces of lamination (F_{bx}) = 1,600 psi for 2 lams to 15 in. deep without special tension laminations.

Volume factor for F_{bx} is in accordance with 2015 NDS. Size factor for F_{by} is $(12/d)^{1/9}$, where d is equal to the lamination width in inches.

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Allowable Axial Loads (Pounds) for Combination No. 48 Glulam Column

Side loads are not permitted. End loads are limited to a maximum eccentricity of either 1/6 column width or depth, whichever is worse.

Effective	Lamination Net Width = 5-1/2 in.											
Column	Net De	epth = 5-1/2 in. (4	4 lams)	Net Depth = 7 in. (6 lams)			Net Depth = 8-1/4 in. (6 lams)			Net Depth = 9-5/8 in. (7 lams)		
Length	Load Duration Factor			Load Duration Factor			Load Duration Factor			Load Duration Factor		
(ft)	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25
4	31,870	36,130	38,910	41,810	47,620	51,420	49,970	57,020	61,660	58,850	67,250	72,780
5	30,220	33,990	36,410	40,310	45,630	49,080	48,540	55,110	59,390	57,450	65,360	70,530
6	28,320	31,540	33,560	38,480	43,220	46,230	46,730	52,690	56,490	55,640	62,880	67,520
7	26,220	28,880	30,490	36,330	40,360	42,850	44,500	49,650	52,790	53,290	58,490	61,590
8	24,010	26,110	27,360	33,840	37,120	39,080	41,490	44,870	46,860	48,410	52,350	54,660
9	21,770	23,420	24,390	31,120	33,700	35,030	37,250	39,800	41,280	43,460	46,440	48,160
10	19,640	20,940	21,700	28,220	29,880	30,840	33,260	35,210	36,340	38,800	41,080	42,400
11	17,690	18,730	19,340	25,180	26,480	27,230	29,670	31,200	32,090	34,620	36,400	37,440
12	15,950	16,800	17,290	22,510	23,550	24,150	26,530	27,750	28,460	30,950	32,380	33,200
13	14,420	15,110	15,520	20,190	21,030	21,520	23,790	24,790	25,360	27,760	28,920	29,590
14	13,070	13,650	13,990	18,180	18,870	19,270	21,420	22,240	22,720	25,000	25,950	26,500
15	11,880	12,370	12,660	16,430	17,010	17,350	19,370	20,050	20,440	22,600	23,390	23,850
16	10,840	11,260	11,500	14,910	15,400	15,680	17,580	18,150	18,480	20,510	21,180	21,570
17	9,930	10,280	10,490	13,590	14,000	14,240	16,010	16,500	16,790	18,680	19,250	19,580
18	9,110	9,420	9,600	12,420	12,780	12,980	14,640	15,060	15,300	17,080	17,570	17,850
19	8,390	8,660	8,810	11,400	11,710	11,880	13,440	13,800	14,000	15,670	16,100	16,340
20	7,750	7,980	8,120	10,490	10,760	10,910	12,370	12,680	12,860	14,430	14,800	15,010
21	7,180	7,380	7,500	9,690	9,920	10,060	11,420	11,690	11,850	13,320	13,640	13,830
22	6,670	6,840	6,950	8,970	9,180	9,290	10,570	10,810	10,950	12,330	12,620	12,780

Notes

- 1. The tabulated allowable loads apply only to one-piece glulam members made with all N2D12 laminations (Combination 48) without special tension laminations.
- 2. Applicable service conditions = dry
- 3. The tabulated allowable loads are based on simply axially loaded columns subjected to a maximum eccentricity of either 1/6 column width or 1/6 column depth, whichever is worse. For side loads, other eccentric end loads, or other combined axial and flexural loads, see 2015 NDS
- 4. The column is assumed to be unbraced, except at the column ends, and the effective column length is equal to the actual column length.
- 5. Design properties for normal load duration and dry-use service conditions:

Compression parallel to grain (F_c) = 2,200 psi for 4 or more lams, or 1,350 psi for 2 or 3 lams.

Modulus of elasticity (E) = 1.7×10^6 psi

Flexural stress when loaded parallel to wide faces of lamination (F_{bv}) = 2,000 psi for 4 or more lams, or 1,800 psi for 3 lams.

Flexural stress when loaded perpendicular to wide faces of lamination (F_{bx}) = 1,600 psi for 2 lams to 15 in. deep without special tension laminations.

Volume factor for F_{bx} is in accordance with 2015 NDS. Size factor for F_{by} is $(12/d)^{1/9}$, where d is equal to the lamination width in inches.

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Allowable Axial Loads (Pounds) for Combination No. 48 Glulam Column

Side loads are not permitted. End loads are limited to a maximum eccentricity of either 1/6 column width or depth, whichever is worse.

Effective		Lamination Net Width = 7 in.									
Column	N	et Depth = 7 in. (6 lan	ns)	Net	Depth = 8-1/4 in. (6 la	ams)	Net Depth = 9-5/8 in. (7 lams)				
Length		Load Duration Factor	1		Load Duration Factor	<u>r</u>	Load Duration Factor				
(ft)	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25		
8	44,930	49,890	52,980	55,760	62,310	66,420	67,440	75,690	80,900		
9	42,230	46,460	49,030	52,980	58,670	62,170	64,560	71,830	76,310		
10	39,400	42,930	45,040	49,940	54,760	57,650	61,280	67,000	70,050		
11	36,550	39,460	41,180	46,720	50,720	53,090	56,910	61,090	63,510		
12	33,750	36,160	37,570	43,450	46,760	48,710	52,170	55,540	57,490		
13	31,100	33,110	34,280	40,250	43,020	44,630	47,730	50,480	52,070		
14	28,650	30,340	31,330	37,240	39,380	40,510	43,670	45,940	47,260		
15	26,410	27,840	28,680	34,280	35,920	36,870	40,000	41,910	43,010		
16	24,380	25,600	26,320	31,460	32,850	33,650	36,710	38,320	39,260		
17	22,540	23,600	24,210	28,940	30,120	30,810	33,760	35,150	35,940		
18	20,880	21,800	22,330	26,680	27,700	28,290	31,130	32,320	33,010		
19	19,380	20,180	20,650	24,660	25,550	26,060	28,770	29,800	30,400		
20	18,020	18,730	19,140	22,850	23,620	24,070	26,650	27,560	28,080		
21	16,800	17,420	17,780	21,220	21,900	22,290	24,750	25,550	26,000		
22	15,680	16,240	16,550	19,750	20,350	20,690	23,040	23,740	24,140		
23	14,670	15,160	15,450	18,420	18,950	19,260	21,490	22,110	22,470		
24	13,750	14,190	14,450	17,220	17,690	17,960	20,090	20,640	20,960		
25	12,910	13,310	13,530	16,130	16,550	16,790	18,810	19,310	19,590		
26	12,150	12,500	12,700	15,130	15,510	15,730	17,650	18,100	18,350		
27	11,440	11,760	11,940	14,220	14,570	14,770	16,600	17,000	17,230		
28	10,790	11,080	11,250	13,400	13,710	13,880	15,630	15,990	16,200		
29	10,190	10,460	10,610	12,630	12,920	13,080	14,740	15,070	15,260		

- 1. The tabulated allowable loads apply only to one-piece glulam members made with all N2D12 laminations (Combination 48) without special tension laminations.
- 2. Applicable service conditions = dry
- 3. The tabulated allowable loads are based on simply axially loaded columns subjected to a maximum eccentricity of either 1/6 column width or 1/6 column depth, whichever is worse. For side loads, other eccentric end loads, or other combined axial and flexural loads, see 2015 NDS
- 4. The column is assumed to be unbraced, except at the column ends, and the effective column length is equal to the actual column length.
- 5. Design properties for normal load duration and dry-use service conditions:

Compression parallel to grain (F_c) = 2,200 psi for 4 or more lams, or 1,350 psi for 2 or 3 lams.

Modulus of elasticity (E) = 1.7 x 10th psi

Flexural stress when loaded parallel to wide faces of lamination $(F_{by}) = 2,000$ psi for 4 or more lams, or 1,800 psi for 3 lams.

Flexural stress when loaded perpendicular to wide faces of lamination (f_{bx}) = 1,600 psi for 2 lams to 15 in. deep without special tension laminations. Volume factor for F_{bx} is in accordance with 2015 NDS. Size factor for F_{by} is (12/d)^{1/9}, where d is equal to the lamination width in inches.

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INSTALLATION AND STORAGE REQUIREMENTS AND USE MEASURES APPLICABLE TO ALL BOOZER PRODUCTS.

(Revised as of January 18, 2019)

Specific use, storage and installation requirements and instructions applicable to all Boozer products, including but not limited to Boozer Glued Laminated Timber Beams, Treated Beams, Columns, Joists, and Headers (the "Product") may be found at http://boozer-beam.com/products/. The following precautions should be taken both when handling any BoozerBeam™ Product and in determining where to use and dispose of the Product. These requirements and instructions are provided as part of and incorporated by reference into Boozer's Limited Warranty.

- The Product should not be exposed to the elements (sun, rain, snow, water, moisture, excessive heat, excessive cold, etc.), other than very short periods prior to installation.
- The Product should not be used in direct water or marine applications, below grade, or in applications in which the Product is in direct contact with the soil. Columns may be installed on concrete if a installed onto a metal plate that separates the columns from the concrete.
- The Product should not be used where it will be in frequent or prolonged contact with bare skin, unless an effective sealer has been applied.
- The Product is not suitable for food garden uses.
- All shipping containers, plastic, or other wrapping applied during shipment should be removed from the Product prior to installation.
- Do not use the Product for cutting-boards or countertops.
- For all interior applications, the purchaser is responsible for ensuring that the installation of a treated product complies with all applicable indoor air quality standards (IAQs) as prescribed by the federal or applicable state or local regulatory authority.
- Dispose of the Product by ordinary trash collection or burial. Treated wood should not be burned in open fires or in stoves, fireplaces,
 or residential boilers because toxic chemicals may be produced as part of the smoke and ashes. Treated wood from commercial or
 industrial use (e.g., construction sites) may be burned only in commercial or industrial incinerators or boilers in accordance with state
 and federal regulations.
- Avoid frequent or prolonged inhalation of sawdust from the Product. When sawing and machining treated wood, wear a dust mask.
 Whenever possible, these operations should be performed outdoors to avoid indoor accumulations of airborne sawdust from treated wood.
- When power sawing and machining, wear goggles to protect eyes from flying particles.
- After working with the Product, and before eating, drinking, and use of tobacco products, wash all exposed skin areas thoroughly and completely.
- If oily preservatives or Product sawdust accumulate on clothes, launder before reuse of the clothes. Work clothes exposed to the Product or its sawdust or preservatives should be washed separately from other clothing.
- While in storage, the Product should be kept dry and under cover and not be exposed to standing water or marine conditions.
- It is the purchaser and intended user of the Product's sole responsibility to install the Product correctly and to select the proper-sized Product for its/his/her intended use.
- When storing a Product for any extended amount of time, the Product should be stored on its down-side, with gravity acting on the Product as it would in its eventual installation.
- All Products should be installed with the standard, as-designed orientation (e.g., for Beams, with the narrow side down). For Products with a specific or designated orientation instruction (which should appear on the Product), that instruction should be strictly followed.



LIMITED WARRANTY

(Revised as of January 18, 2019)

- 1. <u>LIMITED WARRANTY COVERAGE:</u> Boozer Laminated Beam Company, Inc. ("Boozer") warrants (for installation within the U.S.) to the purchaser and all transferees prior to and including the first owner of the structure to which the Product (as hereafter defined) is properly installed (each a "<u>Covered Person</u>") that each Product sold by Boozer, including but not limited to Boozer Glued Laminated Timber Beams, Treated Beams, Columns, Joists, and Headers (the "<u>Product</u>"), when manufactured is free from defects in material and manufacture and, when used for its intended purpose and in accordance with Boozer's installation and use requirements, will perform in accordance with the published Product specifications. This Limited Warranty only covers defects and failures of the Product that result in structural failure of the Product. If the Product is defective in material or manufacture (when used for its intended purpose and in accordance with Boozer's installation and use requirements), Boozer will replace the Product with a non-defective Product (or equivalent product, if the Product is no longer available) at no charge. Boozer's replacement of the defective Product pursuant to this Section 1 of this Limited Warranty SHALL BE THE SOLE AND EXCLUSIVE REMEDY available to the Covered Person with respect to defects in material or manufacture or any performance of the Product that is not in accordance with relevant specifications. Boozer will not refund or pay any costs in connection with labor or accessory materials or for any other damages regardless of whether caused by the Product or otherwise.
- 2. <u>CONDITIONS OF WARRANTY</u>: Boozer's liability hereunder to the Covered Person shall be subject to the following terms and conditions:
- (a) The claimant must provide reasonable proof that he/she is a Covered Person.
- (b) The Product must be properly stored and installed in accordance with Boozer's installation, storage and use requirements (available at: http://boozerbeam.com/products/) and all applicable building codes, rules, and ordinances ("Applicable Building Rules") adopted by federal, state or local governments or government agencies and applicable to the installation. Failure to install the Product in accordance with Boozer's installation requirements and all Applicable Building Rules voids this Limited Warranty.
- (c) The Covered Person must provide written notice of any claim under this Limited Warranty to Boozer within 45 days after discovery of any claimed Product failure covered by this Limited Warranty and before beginning any permanent repair. The notice must describe the location of the Product, details of the failure, and provide all information necessary for Boozer to investigate the claim. Photos of the Product, showing defect or failure, should accompany the notice. Before any permanent repair, the Covered Person must allow Boozer or Boozer's agent to enter the property and structure where the Product is installed, and examine, photograph and take samples of the Product.
- (d) Upon discovery of a possible Product defect or failure, the Covered Person must immediately, and at the Covered Person's own expense, provide for protection of all property that could be affected until the problem or failure is remedied.
- (e) Only defects and failures that result in the structural failure of the Product are covered by this Limited Warranty
- 3. EXCLUSIONS: This Limited Warranty does not cover loss, damage or defects resulting from or in any way attributable to: (a) any Product failure due to any reason other than structural failure or defect in material and manufacture; (b) the improper storage, shipping, handling or installation of the Product (including, without limitation, failure of the Product to be installed in strict compliance with Boozer's installation, storage and use requirements and all Applicable Building Rules) or improper installation of other accessories; (c) repair or alteration of the Product; (d) settlement or structural movement or movement of materials to which the Product is attached; (e) damage from incorrect or improper design of the structure; (f) exceeding any applicable maximum designed weight or wind loads; (g) acts of God including, but not limited to, hurricanes, tornados, floods, earthquakes, extreme weather or other natural phenomena, (including, but not limited to, unusual climate conditions); (h) performance of any paints or coatings; (i) lack of proper maintenance;
 - (j) damage during the construction process; (k) damage caused by the weathering of the Product including, but not limited to including but not limited to, raised grain, splitting, checking, twisting, warping, shrinkage, swelling; or de-lamination; (l) damage caused by the use of inappropriate fasteners; (m) any Product failure or damage due to water or marine applications; (n) discoloration or minor cosmetic defects; (o) failure due to moisture or exposure to elements; (p) wet use applications or any application in which the Product is enclosed and moisture cannot naturally evaporate from the Product; (q) any application in which the Product is in direct contact with the ground (except, in the case of Treated Columns, when the column is mounted on a metal plate on a concrete slab, in accordance with Boozer's general and specific installation requirements and Applicable Building Rules); (r) failures or defects if the Product is subjected to further processing or alteration after shipment; (s) damage due to fungal decay of or termite attack (any such warranty on a Treated Product will be provided, if at all, by a third-party applicator as provided in Paragraph 4, below); (t) any unapproved pressure or topical treatment; or (u) any other neglect, abuse, or misuse by the Covered Person or a third party. In addition, only defects and failures of the Product that result in the structural failure of the Product are covered by this Limited Warranty.

- 4. TREATED PRODUCTS ONLY: To the extent a Covered Person has purchased or possesses a Boozer Product that has been treated with a chemical designed to deter or prevent insect damage or fungal growth on the Product (a "Treated Product"), Boozer assigns to such Covered Person any and all warranties applicable to the Treated Product, if any, against fungal damage or insect attack provided to Boozer from the manufacturers and applicators of such product.
- 5. <u>DISCLAIMER</u>: The statements in this Limited Warranty constitute the only warranty extended by Boozer for the Product. BOOZER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EXCEPT AS PROVIDED BY APPLICABLE STATE LAW IN WHICH CASE THE DURATION OF ANY APPLICABLE IMPLIED WARRANTIES ARE LIMITED TO THE FULLEST EXTENT ALLOWED BY APPLICABLE LAW. NO OTHER WARRANTY IS OR WILL BE MADE BY OR ON BEHALF OF THE MANUFACTURER OR THE SELLER OR BY OPERATION OF LAW OR BY USAGE OF TRADE OR COURSE OF DEALING WITH RESPECT TO THE PRODUCT OR ITS INSTALLATION, STORAGE, HANDLING, MAINTENANCE, USE, REPLACEMENT OR REPAIR.
- 6. EXCLUSION OF INCIDENTAL AND CONSEQUENTIAL DAMAGES: EXCEPT AS EXPRESSLY OVERRIDDEN BY APPLICABLE LAW, IN NO EVENT WILL BOOZER BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM NONDELIVERY OR FROM THE USE, MISUSE, OR INABILITY TO USE THE PRODUCT OR FROM DEFECTS IN THE PRODUCT.
- 7. <u>SETTLEMENT OF CLAIM</u>: Any warranty payment or material replacement by Boozer pursuant to Section 1 hereof shall constitute a full settlement and release of all claims of any Covered Person or their successors and assigns hereunder for damages or other relief, and shall be a complete bar to any litigation arising out of this warranty or the Covered Person's purchase or use of the Product filed subsequent to the Covered Person's acceptance of such compensation.